

Clean Copy of Amendments

In the Specification:

ABSTRACT

This invention is directed to methods for treating radioactive-containing waste materials. Even more specifically, this invention relates to the prevention of radon emissions by encapsulating the radon in radon-generating waste matter using a chemical additive. Alternatively, the amount of radon escaping into the environment may be minimized by adjusting the shape of the carrier which stores the radon generating waste matter. Additionally, the first two embodiments may be combined to ensure that the radon does not escape into the environment. Finally, polymer sealants may be used as an additional barrier layer.

In the Claims:

1. (Twice Amended) A method for preventing alpha particle radiation emissions from being emitted from radioactive material-containing waste material into an environment comprising:

admixing a polymer with the waste material to encapsulate the radioactive material within the polymer wherein the polymer prevents alpha particle radiation emissions from passing through the polymer.

12. (Twice Amended) A method of reducing alpha particle radiation emissions from emitting from radioactive material-containing waste material comprising:

forming the waste material into a geometric shape having a volume per unit surface area, wherein the waste material has a smaller surface area thereby reducing the emissions of alpha particle radiation from the waste material.

22. (Twice Amended) A method for preventing alpha particle radiation emissions from being emitted from radioactive material-containing waste material into an environment comprising:

admixing a polymer with the waste material to form a first admixture, wherein the polymer encapsulates the radioactive material and prevents alpha particle radiation emissions from passing through the polymer;

admixing the first admixture with a shielding material to form a second admixture, wherein the first admixture is incorporated within the second admixture; and

forming the second admixture into a geometric shape having a volume per unit surface area, wherein the alpha particle radiation has less surface area through which to leave the second admixture.